Amendments to the Specification:

Please amend the Specification as follows:

Please amend the paragraph beginning on page 3 at line 33, and extending to page 4, line 7, as follows:

-- FIGURE 1 is an upper isometric view of a manufacturing assembly 100 having a servo-controlled tool assembly 150 in accordance with an embodiment of the invention. In this embodiment, the manufacturing assembly 100 includes a track assembly 110 controllably attachable to a workpiece 20, and a carriage assembly 120 moveably coupled to the track assembly 110. A controller 130 is mounted on the carriage assembly and is operatively coupled to the servo-controlled tool assembly 150 and to the carriage assembly 120. As described more fully below, the manufacturing assembly 100 having the servo-controlled tool assembly 150 may advantageously improve the accuracy and efficiency of manufacturing operations performed on the workpiece 20 ~~24~~. --

Please amend the paragraph beginning on page 4 at line 31, and extending to page 5, line 3, as follows:

-- The widths of the rails 22, 24 extend substantially parallel to the surface of the workpiece 20 when the vacuum cup assemblies 14 are attached to the workpiece 20 ~~surface 102~~. Because the rails 22, 24 may bend relatively easily about the widthwise directions and to twist about their longitudinal axes, the rails 22, 24 may flex and twist as needed to substantially follow the surface of the workpiece 20 and the vacuum cup assemblies 14 maintain each rail at a substantially constant distance from the surface of the workpiece 20. In this manner, the major surfaces of the rails 22, 24 may be substantially perpendicular to the surface normal of the workpiece 20 at any point along each rail. --

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Please amend the paragraph beginning on page 5 at line 4, and extending to page 5, line 23, as follows:

-- FIGURES 2 and 3 are enlarged, partial upper and lower isometric views, respectively, of a track assembly 110 and a carriage assembly 120 of the manufacturing assembly 100 of FIGURE 1. As best shown in FIGURE 2, the carriage assembly 120 may translate along the rails 22, 24 by virtue of rollers 32 that are mounted on an x-axis carriage 30 of the carriage assembly 120 and engaged with the rails 22, 24. The x-axis carriage 30 of the carriage assembly 120 in the illustrated embodiment comprises a plate-shaped member. The rollers 32 are mounted along each of the opposite side edges of the x-axis carriage 30. More particularly, spring plates 34 and 36 (best shown in FIGURE 3) are attached to the x-axis carriage 30 adjacent to a lower surface thereof at each of the opposite side edges of the x-axis carriage 30. The spring plates 34, 36 are affixed to the x-axis carriage 30 at locations 37 (FIGURE 3) spaced inwardly from the opposite ends of the spring plates 34, 36, such that each spring plate has two opposite end portions that are cantilevered from the x-axis carriage 30. The rollers 32 are mounted on these cantilevered end portions of the spring plates 34, 36. There are two opposing rollers 32 mounted on each cantilevered end portion of each of the spring plates 34, 36. Each rail 22, 24 is received between the opposing rollers 32. The rails 22, 24 preferably have V-shaped edges engaged by the rollers 32, and the rollers 32 are V-groove rollers having V-shaped grooves that receive the V-shaped edges of the rails 22, 24. The rollers 32 thus prevent relative movement between the rollers 32 and rails 22, 24 in the direction along the rotational axes of the rollers 32, which axes are substantially normal to the workpiece <u>20</u> ~~surface 102~~. --

Please amend the paragraph beginning on page 5 at line 24, and extending to page 6, line 5, as follows:

-- The spring plates 34, 36 on which the rollers 32 are mounted may flex and twist as needed (*i.e.* as dictated by the contour of the workpiece <u>20</u> ~~surface 102~~ as the carriage assembly 120 traverses the rails 22, 24) to allow a limited degree of relative movement to occur between the x-axis carriage 30 and the rollers 32. This is facilitated by making the spring plates

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34, 36 relatively narrow at their middles and wider at their ends, so that the plates 34, 36 preferentially bend and twist at approximately the middle rather than at the ends where the rollers 32 are mounted. Thus, a limited degree of relative movement can occur between the x-axis carriage 30 and the rails 22, 24. The net result is that the x-axis carriage 30 enables the carriage assembly 120 to traverse the rails 22, 24 along the x-axis (*i.e.* the axis parallel to the length direction of the rails 22, 24) even though the rails 22, 24 may be bending and twisting in somewhat different ways relative to each other. In effect, the rails 22, 24 conform to the contour of the workpiece 20 and thus, the thickness direction of the rails 22, 24 is approximately normal to the surface of the workpiece 20 at any point along the path defined by the rails 22, 24. Consequently, a reference axis of the carriage assembly 120 (in the illustrated embodiment, a z-axis normal to the plane of the x-axis carriage 30) is maintained substantially normal to the workpiece 20 at any position of the carriage assembly 120 along the rails 22, 24. --

Please amend the paragraph beginning on page 7 at line 18, and extending to page 7, line 27, as follows:

-- It may be appreciated that the various operations of the manufacturing assembly 100 may be controlled by the controller 130, including the positioning of the carriage assembly 120 on the track assembly 110, and the positioning and engagement of the servo-controlled tool assembly 150 with respect to the workpiece 20. These operations may be accomplished in an automated or semi-automated manner using the controller 134 equipped with computerized numerically-controlled (CNC) methods and algorithms. Alternately, the positioning may be performed manually or partially-manually by an operator, such as, for example, by having the operator provide manual control inputs to the controller 134, or by temporarily disabling or neutralizing the above-referenced motors and actuators of the carriage assembly 120 ~~and clamp-up assemblies 120, 160~~ to permit manual movement. --

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Please amend the paragraph beginning on page 7 at line 28, and extending to page 8, line 4, as follows:

-- In a particular aspect, the controller 130 includes an entire CNC control system. For example, in one particular embodiment, the controller 130 includes an 8-axis servo-controller, and a plurality of servo-amplifiers, servo-motors, and air solenoids. Because the controller 130 is attached directly to the carriage assembly 120 (*e.g.* to the y-axis carriage 50), the controller 130 travels with the carriage assembly 120 during the performance manufacturing operations. Thus, the links or cables between the controller 130 and the other components of the manufacturing assembly 100 for transmitting control signals to (and receiving feedback signals from) the drive motors 40, 60 of the carriage assembly 120, ~~the position sensor assembly 140,~~ the tool assembly 150, and any other components of the manufacturing assembly, are greatly reduced or eliminated. A controller umbilical 132 (FIGURE 1) may provide control air, electrical power, and communication cables from a supply unit 134 to the controller 130. --

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